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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,090	02/20/2004	Henry W. Bonk	402200003DVC	6886
27572 7590 03/31/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
EXAMINER				
AUGHENBAUGH, WALTER				
ART UNIT		PAPER NUMBER		
1794				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/784,090

**Applicant(s)**

BONK ET AL.

**Examiner**

WALTER B. AUGHENBAUGH

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 19, 2009 has been entered.

### ***Acknowledgement of Applicant's Amendments***

2. The amendments made in claims 1, 2, 6 and 9 in the Amendment filed January 19, 2009 have been received and considered by Examiner.

## **WITHDRAWN REJECTIONS**

3. The obviousness double patenting and 35 U.S.C. 102 rejections of the claims made of record in the previous Office Action mailed September 17, 2008 have been withdrawn due to Applicant's amendment in claim 1 in the Amendment filed January 19, 2009.

## **NEW REJECTIONS**

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 25 of U.S. Patent No. 5,952,065 in view of Lee et al. (USPN 5,605,961).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 25 of Mitchell et al. teaches a device that corresponds to the claimed device comprising a thermoplastic polyurethane. Claim 25 at col. 18, lines 45-64 and col. 9, lines 23-25. Col. 9, lines 23-25 and col. 14, line 66-col. 15, line 14 show that the claim terminology “thermoplastic polyurethane” (line 5 of claim 1) includes polyurethane thermoplastic elastomers.

Mitchell et al. fails to explicitly teach that the thermoplastic polyurethane is formed as the reaction product of at least one diol as claimed, at least one difunctional extender and at least one aliphatic diisocyanate.

Lee et al., however discloses a thermoplastic molding composition that comprises a thermoplastic polyurethane (col. 2, lines 30-36), and that the thermoplastic polyurethane is formed via well known methods in which at least one polyester or polyether diol, at least one difunctional extender and at least one diisocyanate are reacted (col. 2, line 41-col. 3, line 3). Lee et al. disclose that isophorone diisocyanate, hexamethylene diisocyanate, methylene bis (cyclohexyl isocyanate) and xylylene diisocyanate, all of which are aliphatic diisocyanates (see,

for example, paragraph 0082 of Applicant's specification), are suitable diisocyanates for forming the thermoplastic polyurethane (col. 4, lines 6-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a thermoplastic polyurethane formed from the reaction product of at least one polyester or polyether diol, at least one difunctional extender and at least one aliphatic diisocyanate (such as isophorone diisocyanate, hexamethylene diisocyanate, methylene bis (cyclohexyl isocyanate) and xylylene diisocyanate) since the thermoplastic polyurethane formed from the reaction product of these reactants is a well known composition for formation of a thermoplastic molding composition as taught by Lee et al.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (USPN 5,952,065) in view of Lee et al. (USPN 5,605,961).

In regard to claim 1, Mitchell et al. teaches a device that corresponds to the claimed device comprising a thermoplastic polyurethane. Claim 25 at col. 18, lines 45-64 and col. 9, lines 23-25. Col. 9, lines 23-25 and col. 14, line 66-col. 15, line 14 show that the claim terminology “thermoplastic polyurethane” (line 5 of claim 1) includes polyurethane thermoplastic elastomers.

Mitchell et al. fails to explicitly teach that the thermoplastic polyurethane is formed as the reaction product of at least one diol as claimed, at least one difunctional extender and at least one aliphatic diisocyanate.

Lee et al., however, discloses a thermoplastic molding composition that comprises a thermoplastic polyurethane (col. 2, lines 30-36), and that the thermoplastic polyurethane is formed via well known methods in which at least one polyester or polyether diol, at least one difunctional extender and at least one diisocyanate are reacted (col. 2, line 41-col. 3, line 3). Lee et al. disclose that isophorone diisocyanate, hexamethylene diisocyanate, methylene bis (cyclohexyl isocyanate) and xylylene diisocyanate, all of which are aliphatic diisocyanates (see, for example, paragraph 0082 of Applicant’s specification), are suitable diisocyanates for forming the thermoplastic polyurethane (col. 4, lines 6-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a thermoplastic polyurethane formed from the reaction product of at least one polyester or polyether diol, at least one difunctional extender and at least one aliphatic diisocyanate (such as isophorone diisocyanate, hexamethylene diisocyanate, methylene bis (cyclohexyl isocyanate) and xylylene diisocyanate) since the thermoplastic polyurethane formed from the reaction product of these reactants is a well known composition for formation of a thermoplastic molding composition as taught by Lee et al.

In regard to claim 2, a cushioning device having a first layer having an amount of polyurethane that falls within the range recited in claim 2 falls within the scope of claim 25 of Mitchell et al. (claim 25), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 2.

In regard to claim 3, Mitchell et al. teach that the materials recited in claim 3 are suitable materials for the second layer (col. 9, lines 31-41), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 3.

In regard to claim 4, Mitchell et al. teach thickness ranges for the respective layers that overlap with those recited in claim 4 (col. 5, lines 62-65 and col. 15, lines 23-50), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 4.

In regard to claim 5, Mitchell et al. teach that the device comprises nitrogen as a capture gas constituent (col. 2, lines 22-67), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 5.

In regard to claim 6, a cushioning device having a first layer having an amount of polyurethane that falls within the range recited in claim 6 falls within the scope of claim 25 of Mitchell et al. (claim 25), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claims 1 and 2 corresponds to the device claimed in claim 6.

In regard to claim 7, Mitchell et al. teach the EVOH claimed in claim 7 (col. 9, lines 52-66), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 7.

In regard to claim 8, Mitchell et al. teach that the first layer includes an aromatic thermoplastic polyurethane (col. 9, lines 52-66), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 8.

In regard to claim 9, a cushioning device having a first layer having amounts of polyurethane and EVOH that falls within the range recited in claim 9 falls within the scope of claim 25 of Mitchell et al. (claim 25), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 9.

In regard to claim 10, Mitchell et al. teach a cushioning device having the third layer as claimed (col. 12, lines 24-38 and col. 9, lines 31-41), so the device taught by Mitchell et al. and Lee et al. as discussed in regard to claim 1 corresponds to the device claimed in claim 10.

#### ***Response to Arguments***

8. Applicant's arguments presented in the Amendment filed January 19, 2009 in regard to the obviousness-type double patenting rejection made of record in the previous Office Action mailed September 17, 2008, to the extent that they apply to the new obviousness-type double patenting rejection made of record in this Office Action, have been fully considered but are not persuasive.

The portion of the specification which Applicant relies upon does not set the metes and bounds of what is considered a "polyurethane based thermoplastic" since this portion of the specification only gives an example of a "polyurethane engineering thermoplastic". Polyurethane engineering thermoplastics are polyurethane based thermoplastics. The polyurethanes of Mitchell et al. and the polyurethanes of Applicant's instant invention are both "polyurethane based thermoplastics". Applicant has not convincingly shown that the

polyurethanes of Mitchell et al. do not correspond to, or overlap in scope with, the polyurethanes of Applicant's instant invention.

9. Applicant's arguments presented in the Amendment filed January 19, 2009 in regard to the 35 U.S.C. 102 rejection made of record in the previous Office Action mailed September 17, 2008, to the extent that they apply to the 35 U.S.C. 102 rejection made of record in this Office Action, have been fully considered but are not persuasive.

For the reasons discussed above in regard to the obviousness-type double patenting rejection, Applicant has not convincingly shown that the polyurethanes of Mitchell et al. do not correspond to, or overlap in scope with, the polyurethanes of Applicant's instant invention.

Applicant has not explained how the discussion regarding the Moureaux patent addresses the rejection of record.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /  
Examiner, Art Unit 1794

03/29/09